



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,218	12/03/2001	Minoru Imura	017446-0322	5072
22428	7590	04/04/2006	EXAMINER	
FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			MOORE JR, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2616	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,218

Applicant(s)

IMURA, MINORU

Examiner

Michael J. Moore, Jr.

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Replacement drawings were received on 1/17/06. These drawings are acceptable and have been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1, 2, 4, 5, 7, and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Naghian (WO 00/04649) in view of Tran et al. (WO 00/33479) ("Tran") provided in Applicant's submitted IDS.

Regarding claim **1**, *Naghian* teaches mobile station 1-2 (extraction means) of Figure 1 that receives power control commands (transmission power control signals) from base station 1-36 and assembles them into a vector 1-4 as spoken of on page 5, lines 5-10.

Naghian also teaches control bit register 1-6 (storage means) of Figure 1 that stores the power control commands of vector 1-4 as spoken of on page 5, lines 8-10.

Naghian also teaches DSP 1-8 and Processor 1-10 (first determination means) of Figure 1 that analyze the command bit vector 1-4 and perform calculation and comparison spoken of on page 5, lines 10-11, as well as page 8, lines 10-15, which states that the mobile station goes through the power control command values in the

change history to detect whether the power control command stream is even (repeatedly generated).

Naghian also teaches control transmission means 1-12 - 1-22 (update stopping means) of Figure 1 that adjusts and controls the mobile station power spoken of on page 5, lines 11-13, as well as page 8, lines 12-15, which states that if the power control command stream is even, the power level is not changed but is kept stable (step 3-20 of Figure 3B).

Naghian does not teach second determination means for determining whether frequency deviation of a reception wave due to the Doppler effect is not greater than a predetermined value, and upon this determination being true, stopping the updating of transmission power.

However, *Tran* teaches in Figure 7 and on page 25, lines 7-33, how the Doppler shift (frequency deviation) of a received signal is estimated and used to derive the estimated velocity of mobile station 10 of Figure 4. This velocity is then compared to a predetermined threshold value in step 180 of Figure 7. *Tran* follows that if the estimated velocity of mobile station 10 is smaller than the predetermined threshold value, then the power control is derived from the received signal rather than calculating a modified power control (step 210).

At the time of the invention, it would have been obvious to someone skilled in the art to combine the velocity estimation teachings of *Tran* with the apparatus of *Naghian* in order to by-pass or modify the derivation of power control commands for improved link performance as spoken of on page 16, lines 29-34 of the *Tran* reference.

Regarding claim 2, *Naghian* further teaches the WCDMA mobile station 1-2 (CDMA mobile terminal) of Figure 1.

Regarding claim 4, *Naghian* further teaches WCDMA mobile station 1-2 (extraction means) of Figure 1 containing control bit register 1-6 (storage means), DSP 1-8 and processor 1-10 (first determination means), and control transmission means 1-12 – 1-22 (update stopping means).

Naghian does not teach second determination means as described above with respect to claim 1.

However, *Tran* teaches a second determination means as described above with respect to claim 1.

At the time of the invention, it would have been obvious to someone skilled in the art to combine the velocity estimation teachings of *Tran* with the apparatus of *Naghian* in order to by-pass or modify the derivation of power control commands for improved link performance as spoken of on page 16, lines 29-34 of the *Tran* reference.

Regarding claim 5, *Naghian* does not teach Doppler effect measuring means for comparing a slot period of a reception signal with a reference slot period to measure a slot period deviation of a reception wave due to the Doppler effect, which is produced upon movement of the terminal.

However, *Tran* teaches in Figure 7 and on page 25, lines 7-33, how the Doppler shift (slot period deviation) of a received signal is estimated and used to derive the estimated velocity of mobile station 10 of Figure 4. This velocity is then compared to a predetermined threshold value in step 180 of Figure 7. *Tran* follows that if the estimated

velocity of mobile station 10 is smaller than the predetermined threshold value, then the power control is derived from the received signal rather than calculating a modified power control (step 210).

At the time of the invention, it would have been obvious to someone skilled in the art to combine the velocity estimation teachings of *Tran* with the apparatus of *Naghian* in order to by-pass or modify the derivation of power control commands for improved link performance as spoken of on page 16, lines 29-34 of the *Tran* reference.

Regarding claim 7, *Naghian* teaches mobile station 1-2 of Figure 1 that receives power control commands (transmission power control signals) from base station 1-36 and assembles them into a vector 1-4 as spoken of on page 5, lines 5-10.

Naghian also teaches control bit register 1-6 of Figure 1 that stores the power control commands of vector 1-4 as spoken of on page 5, lines 8-10.

Naghian also teaches that the mobile station goes through the power control command values in the change history to detect whether the power control command stream is even (repeatedly generated) as spoken of on page 8, lines 10-15.

Naghian also teaches that if the power control command stream is even, the power level is not changed but is kept stable (step 3-20 of Figure 3B) as spoken of on page 8, lines 12-15.

Naghian does not teach determining whether frequency deviation of a reception wave due to the Doppler effect is not greater than a predetermined value, and upon this determination being true, stopping the updating of transmission power.

However, *Tran* teaches in Figure 7 and on page 25, lines 7-33, how the Doppler shift (frequency deviation) of a received signal is estimated and used to derive the estimated velocity of mobile station 10 of Figure 4. This velocity is then compared to a predetermined threshold value in step 180 of Figure 7. *Tran* follows that if the estimated velocity of mobile station 10 is smaller than the predetermined threshold value, then the power control is derived from the received signal rather than calculating a modified power control (step 210).

At the time of the invention, it would have been obvious to someone skilled in the art to combine the velocity estimation teachings of *Tran* with the method of *Naghian* in order to by-pass or modify the derivation of power control commands for improved link performance as spoken of on page 16, lines 29-34 of the *Tran* reference.

Regarding claim 9, *Naghian* does not teach comparing a slot period of a reception signal with a reference slot period to measure a slot period deviation of a reception wave due to the Doppler effect, which is produced upon movement of the terminal.

However, *Tran* teaches in Figure 7 and on page 25, lines 7-33, how the Doppler shift (slot period deviation) of a received signal is estimated and used to derive the estimated velocity of mobile station 10 of Figure 4. This velocity is then compared to a predetermined threshold value in step 180 of Figure 7. *Tran* follows that if the estimated velocity of mobile station 10 is smaller than the predetermined threshold value, then the power control is derived from the received signal rather than calculating a modified power control (step 210).

At the time of the invention, it would have been obvious to someone skilled in the art to combine the velocity estimation teachings of *Tran* with the apparatus of *Naghian* in order to by-pass or modify the derivation of power control commands for improved link performance as spoken of on page 16, lines 29-34 of the *Tran* reference.

4. Claims **6 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Naghian* (WO 00/04649) in view of *Tran et al.* (WO 00/33479) ("*Tran*") and in further view of *Takano* (U.S. 5,924,043) provided in Applicant's submitted IDS.

Regarding claims **6 and 10**, *Naghian* in view of *Tran* teaches the apparatus of claim **1** as well as the method of claim **7**. *Naghian* in view of *Tran* does not teach determining whether a predetermined frequency component of frequency components obtained by Fourier-transforming a plurality of transmission power control signals is not more than a predetermined value, and upon this determination being true, stopping the update of transmission power.

However, *Takano* teaches in Figures 15-18 and on column 15, lines 1-24, how the frequency of serials of TPC bits are measured versus mobile unit speed and how this information is compared to a threshold value to determine a step size to be used for the update of transmission power.

At the time of the invention, it would have been obvious to someone skilled in the art to combine the TPC serial frequency measurement of *Takano* with the apparatus and method of *Naghian* in view of *Tran* in order to regulate the updating of transmission power.

Response to Arguments

5. Applicant's arguments filed 1/17/06 have been fully considered but they are not persuasive.

Regarding *amended* claims **1, 2, 4-7, 9, and 10**, Applicant argues that *Tran* fails to disclose a determination means to decide whether the transmission power is repeatedly increased/decreased, or not.

While Examiner agrees that *Tran* does not teach this limitation, *Naghian* does teach DSP 1-8 and Processor 1-10 (first determination means) of Figure 1 that analyze the command bit vector 1-4 and perform calculation and comparison spoken of on page 5, lines 10-11, as well as page 8, lines 10-15, which states that the mobile station goes through the power control command values in the change history to detect whether the power control command stream is even (repeatedly increased/decreased).

Naghian and *Tran* are considered analogous references in that they are both concerned with transmission power control in a WCDMA system. It is held that it would have been obvious to someone of ordinary skill in the art, given these references, to combine the power control command change history determination means of *Naghian* with the Doppler condition determination means of *Tran* in order to by-pass or modify the derivation of power control commands for improved link performance as spoken of on page 16, lines 29-34 of the *Tran* reference.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:00am - 4:30pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2616

mjm MM

Seema S. Rao
SEEMA S. RAO 3/30/06
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600